W O R L D M E T E O R O L O G I C A L O R G A N I Z A T I O N

Supplement to WMO Publication No. 175.RP.64
Abridged Final Report of the Fourth Session of the
Commission for Aerology

Decisions of the Executive Committee on the
Abridged Final Report of the Fourth Session of the
Commission for Aerology

This document should be considered as a guide to the status of the decisions adopted at the Fourth Session of the Commission for Aerology.

*

* *

A. DECISIONS RECORDED IN THE GENERAL SUMMARY OF THE WORK OF EC-XVIII

5.5.5 Aerology (Item 5.5.5)

5.5.5.1 The Committee examined the Abridged Final Report of the Fourth Session of the Commission for Aerology, with special attention to the recommendations. The main decisions of the Committee are incorporated in Resolutions 23 to 31 (EC-XVIII).

5.5.5.2 With regard to Recommendations 4 and 5 (CAe-IV), in which the Commission proposed that geometric altitudes be used as standard levels for reporting and publishing data above 30 mb (10 km), the Committee noted that there was some divergence of views between CAe and CSM. It was felt that it would be inappropriate to take a decision in this matter until agreement had been reached between the two Commissions concerned. Accordingly these two recommendations were referred back to the President of CAe.

5.5.5.3 In Resolution 12 (EC-XIV) it had been decided that WMO should sponsor the central collection and publication of selected atmospheric radioactivity data. Little interest had since been expressed in this programme and the Secretary-General had been unable to find a country willing to undertake this task. When the Panel of Experts on Atomic Energy was consulted, one member, Dr. L. Machta, proposed that an "on-call" scheme be devised under which these data would only be collected and published after sudden variations in radioactivity had occurred. The Committee supported this idea and invited the Secretary-General, in conjunction with Dr. Machta and other members of the Panel on Atomic Energy, to examine the feasibility of such a scheme and to make specific proposals to the next session of the Executive Committee. In view of the above decision it was decided to eliminate the list of Atmospheric Radioactivity Data from the annex of Resolution 12 (EC-XIV) for the time being, and this is reflected in the annex of Resolution 31 (EC-XVIII).

5.5.5.4 At the seventeenth session of the Committee, the Secretary-General was asked to determine how many southern hemisphere upper air data were being published (or otherwise being made available) for the period of the IQSY. The study revealed that almost all the data were already available or could be made available on request. There would therefore be no need for a special central collection and publication scheme. The Committee noted that the World Meteorological Centre at Melbourne collects data for all southern hemisphere upper air stations received from telecommunications sources on telegraphic (perforated) tape. It further noted that the Permanent Representative of Australia was making copies of these data available and considered that these and data already published might meet the needs of research workers.

5.5.5.5 In paragraph 9.11 of the General Summary of CAe-IV the Commission reviewed the list of atmospheric chemistry data to be published centrally as recommended in the Annex to Resolution 12 (EC-XIV) and suggested a revised list. The Committee approved this new list and adopted Resolution 5.5.5/9 (EC-XVIII).

5.5.5.6 In paragraph 8 of the General Summary of CAe-IV the Commission discussed the definition of the conventional tropopause as specified in Resolution 21 (EC-IX). A revised definition had been proposed but tests of the two definitions had revealed that the new version did not result in sufficient improvement to merit its adoption. Accordingly the Committee agreed with the Commission that no change in Resolution 21 (EC-IX) was warranted. The Secretary-General was requested to inform Members accordingly and also to encourage them to continue studies leading toward a better definition of the conventional tropopause.

B. RESOLUTIONS

Resolution 23 (EC-XVIII)

REPORT OF THE FOURTH SESSION OF THE COMMISSION FOR AEROLOGY

THE EXECUTIVE COMMITTEE,

HAVING CONSIDERED the report of the fourth session of the Commission for Aerology,

DECIDES

(1) To note the report;

(2) To note without comments Resolutions 1 to 15 (CAe-IV);

(3) To embody the substance of the following recommendations in resolutions of the Executive Committee as indicated :

Recommendation 2 (CAe-IV) and Recommendation 3 (CAe-IV) in Resolution 24 (EC-XVIII)

Recommendation 6 (CAe-IV) in Resolution 25 (EC-XVIII)

Recommendation 7 (CAe-IV) in Resolution 26 (EC-XVIII)

Recommendation 11 (CAe-IV) in Resolution 27 (EC-XVIII)

Recommendation 12 (CAe-IV) in Resolution 28 (EC-XVIII)

Recommendation 13 (CAe-IV) in Resolution 29 (EC-XVIII)

Recommendation 14 (CAe-IV) in Resolution 30 (EC-XVIII)

Recommendation 20 (CAe-IV) in Resolution 44 (EC-XVIII)

(4) To take action on the remaining recommendations as follows :

Recommendation 1 (CAe-IV) - Definition of "Mist" and "Fog"

Supports this recommendation and notes that the CSM is taking appropriate follow up action.

Recommendation 4 (CAe-IV) - Standard levels in the high atmosphere and

Recommendation 5 (CAe-IV) - Data required for analysis of charts in the high atmosphere

Notes these recommendations and refers them back to the President of CAe for further consideration in consultation with the President of CSM.

Recommendation 8 (CAe-IV) - Publication of checked data

Approves this recommendation and requests the Secretary-General to bring it to the attention of Members.

Recommendation 9 (CAe-IV) - Noctilucent cloud observations

Approves this recommendation and requests the Secretary-General to bring it to the attention of Members.

Recommendation 10 (CAe-IV) - Abstracts and classification of meteorological research papers

Approves this recommendation and requests the Secretary-General to bring it to the attention of Members.

Recommendation 15 (CAe-IV) - Standardization of ozone spectrophotometers

Recommendation 16 (CAe-IV) - Comparison of ozone sondes

Approves these recommendations and requests the Secretary-General to incorporate them in the programme of instrument comparisons in consultation with the President of CIMO.

Recommendation 17 (CAe-IV) - Meteorological observations from towers

Action taken under Recommendation 6 (CIMO-IV) (see Resolution 19 (EC-XVIII)).

Recommendation 18 (CAe-IV) - Data requirements for boundary layer research

Approves this recommendation and requests the Secretary-General to take appropriate action.

Recommendation 19 (CAe-IV) - Revision of Technical Regulations

Notes this recommendation and requests the Secretary-General to incorporate the proposed amendments in his consolidated report to Fifth Congress on the revision of the Technical Regulations.

NOTE : This resolution replaces Resolution 11 (EC-XIV), which is no longer in force.

Resolution 24 (EC-XVIII)

METEOROLOGY OF THE HIGH ATMOSPHERE

THE EXECUTIVE COMMITTEE,

NOTING Recommendation 2 (CAe-IV) and Recommendation 3 (CAe-IV),

CONSIDERING

(1) That the major problems of upper-atmosphere meteorology can only be solved if there are co-ordinated synoptic programmes,

(2) That the behaviour of the middle stratosphere in winter is clearly linked to phenomena of the upper stratosphere and mesosphere,

(3) That high-level data from balloons, rockets and ground based techniques should assist in the interpretation and utilization of meteorological satellite data,

(4) That high-level data should assist in the resolution of the effect of solar variability on meteorological parameters,

(5) The importance of chemical composition (ozone, water vapour, nitric oxide, etc.) in the study of the thermodynamics and perhaps the dynamics of the high atmosphere,

(6) That further theoretical studies are required relating to this region of the atmosphere and that these would require considerable new data,

(7) The importance of further knowledge of solar radiation, composition of the atmosphere and its variability with latitude, season, etc. in the study of the heat budget, ionization and other physical features of the high atmosphere, including the stratosphere and mesosphere as well as the thermosphere,

(8) That the region between the mesopause and about 200 km is at present the least explored in the atmosphere and is also a region where tidal and other phenomena have complicating effects,

(9) That the climatology of this region has so far had to be restricted to an annual mean plus diurnal and solar activity variations,

RECOMMENDS

(1) That Members of WMO collaborate in synoptic programmes using very high-level balloons and meteorological rockets for the exploration of the upper stratosphere and mesosphere;

(2) That all possible steps be taken (by simultaneous use of different techniques on a single carrier, or intercomparison of techniques on separate carriers including when possible large rockets) to establish the accuracy of techniques used on these carriers;

(3) That the guidance material contained in annex be used when implementing the meteorological investigations called for in this recommendation.

NOTE : This resolution replaces Resolution 16 (EC-XIV), which is no longer in force.

Annex : 1

Annex to Resolution 24 (EC-XVIII)

GUIDANCE MATERIAL FOR IMPLEMENTATION OF METEOROLOGICAL INVESTIGATIONS OF THE HIGH ATMOSPHERE SUCH AS THOSE CALLED FOR IN RESOLUTION 24 (EC-XVIII)

1. Balloon ascents

1.1 For climatological purposes balloon data from all parts of the world are required on a regular basis up to the 10 mb (30 km) level in order that mean values and standard deviations can be obtained.

1.2 It is desirable that high-level balloon ascents for pressure, temperature and wind should be made at all locations where special high atmosphere programmes such as meteorological rockets, vertical distribution of ozone (sondes or Umkehr), meteor trail, cosmic-ray or ionospheric drift studies are carried out.

1.3 A skeleton network of high-level balloon ascents should be provided to augment the data obtained by rocket sondes at the 30, 35 and 40 km levels.

1.4 Where meteorological rocket ascents are made at least once a week, high-level balloon ascents should be carried out daily or twice daily.

2. Meteorological rocket ascents

2.1 It is very desirable to obtain synoptic measurements of wind and temperature (or density) by means of meteorological rockets up to the mesopause and higher if possible. The meteorological rocket network should therefore be expanded to as many areas as possible with regular ascents with the object of establishing firstly the basic climatology and secondly the detailed structure of synoptic systems. Since current thermodynamic sensors for these carriers are unsuitable for use above 55 km, Members are encouraged to develop sensors for the higher levels and to ensure early publication of any successful development in this field.

2.2 Regional co-ordination should be sought in the selection of rocket-sonde stations to ensure as far as possible that networks of stations provide optimum results.

2.3 In order to provide ready means of extending present climatological data authorities making regular rocket ascents should be encouraged to provide monthly station summaries giving means and standard deviations of the parameters measured.

3. Specialized investigations

3.1 Members with appropriate facilities are encouraged to develop sensors for the measurement of the following observations and to ensure early publication of successful developments :

- The solar spectrum below 3000 Å at all levels from the tropopause upwards;
- The composition of the atmosphere and its variability (including that of the minor constituents) especially above balloon altitudes;
- The radio determination of winds from meteor trail observations;
- The use of trails of sodium vapour and in particular night luminous trails to investigate the diurnal variations of wind and tidal motions above the mesopause;
- The use of E layer drifts for wind measurement by comparison with other techniques and subsequently, if possible, to exploit them in helping to establish a wind climatology.

Resolution 25 (EC-XVIII)

WARNINGS OF SUDDEN STRATOSPHERIC WARMINGS

THE EXECUTIVE COMMITTEE,

NOTING Recommendation 6 (CAe-IV), and

CONSIDERING

(1) The incomplete understanding of the stratospheric warming process, since the breakdown of the stratospheric polar night vortex occurs only a few times each year,

(2) The relatively short period during which stratospheric warmings have been observed in some detail,

(3) The desirability of obtaining a record of this phenomenon over a number of years,

URGES Members to maintain arrangements for preparation and dissemination of STRATWARM alerts until the end of 1970; and

REQUESTS the Presidents of Regional Associations concerned :

(1) To continue until the end of 1970 the arrangements for central collection by telecommunications of rawinsonde data for the 50, 30 and 10 mb isobaric surfaces within their Regions and for the regular dissemination of these data to the appropriate STRATWARM Warning Centres and to other Members which have requested that they be included in such dissemination;

(2) To continue the current arrangements for the exchange of rocketsonde data until the end of 1970;

(3) To continue the current arrangements for the dissemination of STRATWARM messages until the end of 1970.

NOTE : This resolution replaces Resolution 6 (EC-XVII), which is no longer in force.

Resolution 26 (EC-XVIII) -

PUBLICATION OF DATA OBTAINED FROM ROCKET SOUNDINGS OF THE HIGH ATMOSPHERE

THE EXECUTIVE COMMITTEE,

NOTING

(1) Recommendation 7 (CAe-IV),

(2) The Committee on Outer Space Research, Resolution 2 - Meteorological Rocket Data,

CONSIDERING

(1) The great value of meteorological rockets for obtaining observational data from levels of the atmosphere that are not easily reached by other measuring devices,

(2) The importance of taking the fullest possible advantage of soundings being made with meteorological rockets,

(3) That the World Data Centre A (Meteorology) publication entitled, "Meteorological Rocket Network Firings" fulfils the requirements for the central collection and publication of meteorological sounding rocket data as a part of the WMO scheme to provide meteorological data for research workers,

INVITES Members

(1) To publish as quickly as practicable all observational data obtained from meteorological rockets, following as closely as possible the suggestions in the annex to this resolution; and

(2) To keep the Secretary-General informed of the existence and availability of publications containing data from meteorological rockets, including, where possible, information on the probable accuracy of the measurements, and to send specimen copies of such publications to the Secretariat;

(3) To send their data promptly to World Data Centre A (Meteorology) for publication.

NOTE : This resolution replaces Resolution 7 (EC-XIII), which is no longer in force.

Annex : 1

Annex to Resolution 26 (EC-XVIII)

PUBLICATION OF DATA OBTAINED FROM ROCKET SOUNDINGS OF THE HIGH ATMOSPHERE

The information to be published should include the dynamic parameters (vector wind), the thermodynamic parameters of state (pressure, temperature, density) and concentration of atmospheric constituents (for example, atomic oxygen and nitric oxide). Primary but not exclusive consideration should be given to the elements actually measured; derived parameters could advantageously be included. The data should be published for levels up to about 120 km, but this should not be interpreted as discouraging the publication of data for higher levels.

The data should be published as quickly as possible even if this means that some of the values are tentative. Improved values should be published later as required.

The above considerations apply to all types of meteorological data irrespective of whether or not the primary purpose of the rocket sounding was meteorological.

Resolution 27 (EC-XVIII) -

METEOROLOGICAL PROGRAMME FOR WORLD GEOPHYSICAL DAYS AND INTERVALS

THE EXECUTIVE COMMITTEE,

NOTING

(1) Recommendation 11 (CAe-IV),

(2) Recommendation 4, IIIrd IQSY Assembly,

CONSIDERING that meteorological observations which can only be carried out occasionally on account of difficulty or expense should be scheduled for World Geophysical Days and World Geophysical Intervals,

RECOMMENDS

(1) That there be four basic World Geophysical Intervals (WGI) each year of two weeks' duration every third month, which so far as possible should include all previously designated days for these purposes;

(2) That each year the WGI's should normally be held one month earlier (zero to two months earlier if some particular period, e.g. a solar eclipse, were to be included) than in the preceding year;

(3) That the final WGI dates should be established more than one full year in advance of any particular calendar year by means of consultation between appropriate international bodies;

(4) That meteorological rocket soundings, ozone soundings and radiometer soundings should be scheduled to fall on World Geophysical Days - Wednesdays;

(5) That during World Geophysical Intervals and STRATWARM Alert Intervals these sounding programmes should be intensified, first preference being for additional soundings on Mondays and Fridays.

CONFIRMS the designation of the President of the Commission for Aerology as the responsible person for approving the dates of the World Geophysical Intervals on behalf of the World Meteorological Organization.

NOTE : This resolution replaces Resolution 18 (EC-XIV) and Resolution 8 (EC-XVII), which are no longer in force.

Resolution 28 (EC-XVIII) -

COMPLETION OF INTERNATIONAL METEOROLOGICAL TABLES

THE EXECUTIVE COMMITTEE,

NOTING

(1) Recommendation 12 (CAe-IV),

(2) Paragraph 5.9.1.3 of the General Summary of the Abridged Report of Third Congress,

CONSIDERING

(1) The recent progress that has been achieved with the first set of International Meteorological Tables,

(2) That planning for the second set has been virtually completed,

(3) That the employment of a full-time editor working under the technical supervision of a CAe working group has been responsible for (1) and (2) above,

(4) That there is an urgent need for a comprehensive series of International Meteorological Tables,

DECIDES

(1) That the second set of tables should be published as listed in Appendix C of the Report of the First Session of the CAe Working Group on International Meteorological Tables (Geneva, 25-28 February 1963);

(2) That the work on the International Meteorological Tables should continue until all needed tables are published;

REQUESTS the Secretary-General, in consultation with the President of CAe, to develop suitable procedures for the revision of these tables from time to time.

NOTE : This resolution replaces Resolutions 21 and 22 (EC-XVI), which are no longer in force.

Resolution 29 (EC-XVIII)

TOTAL OZONE NETWORKS

THE EXECUTIVE COMMITTEE,

NOTING

(1) Recommendation 13 (CAe-IV)

(2) Recommendation 1, International Ozone Commission, Albuquerque, 1964,

(3) Recommendation 10.1, IIIrd IQSY Assembly, Madrid, 1965, and

CONSIDERING

(1) The considerable expansion of the network of total-ozone stations in recent years, particularly for the IQSY period,

(2) The value of such observations in the study of the general circulation and other meteorological phenomena having various space and time-scales,

URGES Members

(1) To continue in operation all existing total-ozone stations on a permanent basis;

(2) To institute or expand networks for total ozone, bearing in mind the desirability of :

(a) Locating total-ozone stations near to rawinsonde stations;

(b) Having equipment for total-ozone measurement at places where ozone-sonde ascents are made;

(c) Locating additional total-ozone stations in the southern hemisphere and in oceanic areas.

NOTE : This resolution replaces Resolution 13 (EC-XIV), which is no longer in force.

Resolution 30 (EC-XVIII) -

OBSERVATIONS OF VERTICAL DISTRIBUTION OF OZONE

THE EXECUTIVE COMMITTEE,

NOTING

(1) Recommendation 14 (CAe-IV),

(2) Recommendation 11/7 (CAeM-III),

CONSIDERING

(1) That synoptic observations of the vertical distribution of atmospheric ozone are of great value for the investigations of the general circulation and the radiation balance of the atmosphere,

(2) That the application to meteorology of results of atmospheric ozone research must in general await more extensive information on the vertical distribution of atmospheric ozone,

(3) The possible need for quantitative information on ozone in the design and operation of supersonic air transport,

(4) That data obtained by the Umkehr method are still useful for determining the vertical distribution of ozone, especially for ozone climatological studies and for supplying data on the upper stratosphere,

(5) That ozone sondes, because they make direct and detailed measurements of the vertical distribution of ozone, may become the standard ozone measuring device,

URGES Members

(1) To institute or expand networks and programmes for the observation of the vertical distribution of atmospheric ozone. The spacing and intervals of observation should be so designed as to allow studies of small-scale variations of ozone distributions. Plans should be made to conduct observations for sufficient periods to allow climatological investigations;

(2) To arrange for stations operating a Dobson instrument in a suitable climate to take routine Umkehr measurements in addition to observations of total ozone amounts;

(3) To continue efforts to develop a reliable inexpensive ozone sonde.

NOTE : This resolution replaces Resolution 14 (EC-XIV), which is no longer in force

Resolution 31 (EC-XVIII) -

COLLECTION AND PUBLICATION OF DATA IN PHYSICAL METEOROLOGY

THE EXECUTIVE COMMITTEE,

NOTING

(1) Resolution 26 (Cg-III),

(2) Paragraph 5.11.2 of the General Summary of the work of Third Congress,

(3) Paragraphs 9.10 and 9.11 of the General Summary of the Abridged Report of CAe-IV,

EXPRESSES its appreciation of the arrangements made by the Secretary-General with the Meteorological Service of Canada and the Hydrometeorological Service of the U.S.S.R. for the publication by these services of ozone data and radiation data respectively; and

CONSIDERING

(1) The advantage to research workers of having meteorological data available in published form.

(2) That the ozone and radiation publications mentioned above provide a valuable improvement in the accessibility of these data for research,

URGES Members to publish, either individually or in groups by mutual agreement, their data in physical meteorology as listed in the annex to this resolution; and

CONSIDERING FURTHER that, in certain cases where the overall volume of data is limited, there would be considerable advantage for research workers in having all the data for the whole world collected and published centrally,

DECIDES that WMO should continue to sponsor the central collection and publication of certain data in atmospheric chemistry, radiation and ozone, as specified in the annex to this resolution;

URGES Members and Meteorological Services of non-Member countries to assist in this project by sending in their data regularly in accordance with the procedures promulgated by the Secretary-General;

REQUESTS the Presidents of the relevant Technical Commissions to keep the annex to this resolution under review and to present further recommendations, as required, on the classes of data which should be collected and published centrally; and

DIRECTS the Secretary-General :

(1) To continue his negotiations with Permanent Representatives of Members willing to accept responsibility for the central collection and publication under WMO sponsorship and to conclude suitable agreements with them as soon as possible;

(2) To provide assistance, as required, to Members which accept such responsibility in initiating and carrying out the work;

(3) To inform Members and to promulgate any additional procedures to be followed by Members in implementing this resolution as soon as any further negotiations have been satisfactorily completed.

NOTE : This resolution replaces Resolution 12 (EC-XIV), which is no longer in force.

Annex : 1

Annex to Resolution 31 (EC-XVIII)

LISTS OF ELEMENTS IN PHYSICAL METEOROLOGY FOR WHICH CENTRALIZED COLLECTION AND PUBLICATION IS RECOMMENDED AND FOR WHICH LOCAL PUBLICATION IS RECOMMENDED

1. Atmospheric chemistry

The following data should be collected and published centrally :

1.1 Representative values of chemical composition of precipitation on a monthly mean basis similar to those previously published in Tellus in regard to format and components (i.e. S, Cl, NO_3-N, NH_3-N, Na, K, Mg and Ca);

1.2 Individual data on Co_2 concentration in oceans and atmosphere. Data on carbon dioxide in the atmosphere should only be included provided that

(a) The sampling is done in such a way as to exclude undue disturbance by locally produced carbon dioxide;

(b) Analyses are made on accuracy of at least 0.5ppm; and

(c) The analyses refer to a common standard.

2. Radiation

The following data should be collected and published centrally :

2.1 Daily and monthly totals of global solar radiation flux.

2.2 Hourly, daily and monthly totals of net radiative flux (net flux).

2.3 Monthly means of hourly data in above two categories (when both are available).

2.4 Radiation-sonde data, tabulated as for aerological data with the addition of radiation fluxes (or net flux), plus cloud observations at the time of the sounding.

The following data should be collected and published locally :

2.5 Hourly values (plus sums or means by hours, days and months) of all radiation-budget components or terms, measured directly and continuously in energy units.

2.6 Complete data on any radiation component measured in the free atmosphere (by balloon, airplane, etc.).

2.7 With lower priority, spot values in time of radiation components, sunshine data and illumination data.

3. Ozone

The following data should be collected and published centrally :

3.1 Representative single daily values of total ozone, with an indication of the class of observation (e.g. direct sun, zenith sky, etc.).

3.2 Data on the vertical distribution of ozone, preferably tabulated as for aerological data, plus ozone concentration expressed as ozone partial pressure.

3.3 Raw "Umkehr" observations, on wavelengths A, C and D, using a format similar to IGY Form O-2, for the following solar zenith angles - 60°, 65°, 70°, 74°, 75°, 77°, 80°, 83°, 84°, 85°, 86.5°, 88°, 89° and 90°.

3.4 Summary data on ozone concentration or ozone above flight level, obtained by horizontal soundings (balloon or aircraft).

The following data should be collected and published locally :

3.5 Total ozone data, comparable to those entered on WMO-IGY Form O-1, with the modifications to the codes employed on that form indicated in the appendix to this annex.

3.6 Surface values of ozone partial pressure, preferably hourly-mean values.

3.7 Complete data on the vertical and horizontal distribution of ozone in the free atmosphere.

A P P E N D I X

REVISED SPECIFICATIONS FOR Λ AND S (WMO-IGY FORM 0-1)

(1) Wavelength(s) used, reported according to the following code :

0 - Wavelengths AD - ordinary setting
1 - Wavelengths BD - ordinary setting
2 - Wavelengths CD - ordinary setting
3 - Wavelengths CC'- ordinary setting
4 - Wavelengths AD - focussed image
5 - Wavelengths BD - focussed image
6 - Wavelengths CD - focussed image
7 - Wavelength C
8 - Other (specify)
9 - Other (specify)

NOTE : Local definitions of 8 and 9 should be given for each issue.

(2) S : Kind of observation, on sun, moon or sky, reported according to the following code :

0 - On direct sun
1 - On direct moon
2 - On blue zenith sky
3 - On zenith cloud (uniform stratified layer of small opacity)
4 - On zenith cloud (uniform or moderately variable layer of medium opacity)
5 - On zenith cloud (uniform or moderately variable layer of large opacity)
6 - On zenith cloud (or highly variable opacity, with or without precipitation)
7 - On zenith cloud (fog)
8 - Other (specify)
9 - Other (specify)

NOTE : Local definitions of 8 and 9 should be given for each issue.